

Algebra/Topology Seminar

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TWO NEW CONSTRUCTIONS OF FINITELY PRESENTED INFINITE SIMPLE GROUPS

Thursday, October 2, 2025
3:00 p.m. in Massry B010

ABSTRACT. I will describe two new constructions of finitely presented infinite simple groups. First, I will present a construction of finitely presented (and type F_∞) simple groups that act by orientation preserving homeomorphisms on the real line. These are the first such examples. Next, I will present a construction of a family of finitely presented infinite uniformly simple groups, where the Ulam width can get arbitrarily large. Among the class of finitely generated (but not finitely presentable) groups, the existence of such examples was demonstrated in the work of Ivanov from 1989. Our construction provides the first such family of examples in the class of finitely presented infinite groups. This is joint work with James Hyde.